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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,128	08/08/2001	Ian J Forster	P/61459-PCT	8713

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EXAMINER	
AU, SCOTT D	
ART UNIT	PAPER NUMBER
2635	7

DATE MAILED: 02/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/831,128	FORSTER, IAN J	
	Examiner	Art Unit	
	Scott Au	2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *May 4 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The application of Forster for a "Receiver Circuit" filed August 8, 2001 has been examined.

Claims 13-23 are pending.

Claim Objections

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 12-22 been renumbered 13-23.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. Claim 12 is dependent upon any of claims 1-11 which have been cancelled. Therefore, the claim is incomplete.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 13-16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasler (US# 4,264,980) in view of Minakuchi et al. (US# 4,393,514).

Referring to claim 13, Hasler discloses a receiver circuit comprising:

an antenna (5) (i.e. an antenna) for receiving a modulated carrier signal (i.e. FM radio signal) at a modulation frequency;

a transistor (10) (i.e. a transistor) connected to the antenna (5) (i.e. an antenna) and configured to operate as a detector of modulation of the carrier signal (i.e. FM radio signal) (col. 2 lines 5-14; see Figure available);

a resonator circuit (11) (i.e. a resonator circuit) connected to the transistor (10) (i.e. a transistor) and configured such transistor (10) (i.e. a transistor) simultaneously self-oscillates at substantially the modulation frequency (col. 2 lines 15- 43; see Figure available). However, Hasler did not explicitly disclose an oscillator quenching means for periodically quenching oscillation of the transistor; and means for sensing

characteristics of a build-up of oscillation to indicate a presence of the modulated carrier signal.

In the same field of endeavor of receiver circuit, Minakuchi et al. teach an oscillator quenching means (32) (i.e. a quenching oscillator) for periodically quenching oscillation of the transistor (T1); and means (8) (i.e. a control) for sensing characteristics of a build-up of oscillation to indicate a presence of the modulated carrier signal (col. 1 lines 35-51 and col. 4 lines 59-68; see Figures 5-6) in order to modify at least one oscillation condition of the quenching oscillator.

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to include a quenching oscillator for periodically quenching oscillation of the transistor; and a control for sensing characteristics of a build-up of oscillation to indicate a presence of the modulated carrier signal disclosed by Minakuchi et al. into receiver circuit of Hasler with the motivation for doing so would allow the circuit to operate at low power consumption and cost wise.

Referring to claim 14, Hasler in view of Minakuchi et al. disclose a receiver circuit of claim 13. Minakuchi et al. disclose in which the oscillator quenching means quenches the oscillation of the transistor when a magnitude of the oscillation reaches a selected magnitude, and in which the means for sensing measures a time between quenching of the transistor to indicate the presence of the modulated carrier signal (col. 4 lines 59-68 and col. 6 lines 52-54).

Referring to claim 15, Hasler in view of Minakuchi et al. disclose a receiver circuit of claim 14. Minakuchi et al. disclose in which the selected magnitude is a point at which oscillator compression of the transistor occurs (col. 6 lines 31-54).

Referring to claim 16, Hasler in view of Minakuchi et al. disclose a receiver circuit of claim 13. Minakuchi et al. disclose in which the oscillator quenching means quenches the oscillation of the transistor at regular time intervals, and in which the means for sensing measures a magnitude of the oscillation over at least one of the time intervals to indicate the presence of the modulated carrier signal (col. 7 lines 20-47).

Referring to claim 21, Hasler in view of Minakuchi et al. disclose a receiver circuit of claim 13. Minakuchi et al. disclose in which the resonator circuit (311) comprises a network of at least one of a capacitor and an inductor (col.1 lines 42-43; see Figures 2, 6, 9 and 11).

Claims 17-18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasler (US# 4,264,980) in view of Minakuchi et al. (US# 4,393,514) as applied to claim 13 above, and further in view of Forster (US# 5,822,685)

Referring to claim 17, Hasler in view of Minakuchi et al. disclose the receiver circuit of claim 13. However, Hasler in view of Minakuchi et al. did not explicitly disclose in which the transistor comprises of a field effect transistor.

In the same field of endeavor of transistor device, Forster teaches the transistor comprises of a field effect transistor (col. 1 lines 37-40 and col. 2 lines 10-16) which is switchable between the detect and reflect modes by increasing the drain/source current.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include the transistor comprises of a field effect transistor disclosed by Forster into receiver circuit of Hasler in view of Minakuchi et al. with the motivation for doing so would allow a FET transistor type to operate as a detector of the modulation of the signal.

Referring to claim 18, Hasler in view of Minakuchi et al. and further in view of Forster disclose the receiver circuit of claim 17 above, Forster further discloses in which the oscillator quenching means quenches the oscillation of the field effect transistor by varying a drain source current (col. 1 lines 37-40, col. 2 lines 10-16 and col. 3 lines 15-29).

Referring to claim 22, Hasler in view of Minakuchi et al. disclose the receiver circuit of claim 13 above, Forster discloses further comprising a matching network (3) (i.e. matching network) between the antenna (2) and the transistor (1) (col. 2 lines 9-14; see Figure 1).

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasler (US# 4,264,980) in view of Minakuchi et al. (US# 4,393,514) as applied to claim 13 above, and further in view of Brekelmans (US# 5,710,993).

Referring to claim 19, Hasler in view of Minakuchi et al. disclose the receiver circuit of claim 13. However, Hasler in view of Minakuchi et al. did not explicitly disclose in which the resonator circuit comprises a ceramic resonator.

In the same field of endeavor of receiver apparatus, Brekelmans teach the resonator circuit comprises a ceramic resonator (col. 4 lines 40-44) in order to determine the oscillation frequency.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include the resonator circuit comprises a ceramic resonator disclosed by Brekelmans into receiver circuit of Hasler in view of Minakuchi et al. with the motivation for do so would allow the determination of the oscillation frequency.

Referring to claim 20, Hasler in view of Minakuchi et al. disclose the receiver circuit of claim 13 above, Brekelmans further discloses the resonator circuit comprises a quartz crystal (col. 4 lines 40-44).

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasler (US# 4,264,980) in view of Minakuchi et al. (US# 4,393,514) as applied to claim 13 above, and further in view of Gerz (US# 6,094,147).

Referring to claim 23, Hasler in view of Minakuchi et al. disclose the receiver circuit of claim 13. However, Hasler in view of Minakuchi et al. did not explicitly disclose in which the modulated carrier signal is at least one of a frequency and a phase modulated carrier signal, and further comprising a narrowband filter for converting the at least one of the frequency and the phase modulated signal to an amplitude modulated signal before the modulated carrier signal is applied to an input of the transistor.

In the same field of endeavor of modulated signal, Gerz teaches in which the modulated carrier signal is at least one of a frequency and a phase modulated carrier signal, and further comprising a narrowband filter (110) for converting the at least one of the frequency and the phase modulated signal to an amplitude modulated signal before the modulated carrier signal is applied to an input of the transistor (col. 3 lines 13-19; see Figure 2) in order for the filter serves to suppress noise and permits a narrow-band gain of the measured signal in the amplifier.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include the modulated carrier signal can be mixed e.g. by proper-phase multiplication of the modulated carrier frequency signal, and further comprising a narrowband filter to suppress noise and permits a narrow-band gain of the measured signal in amplifier disclosed by Gerz into receiver circuit of Hasler in view of Minakuchi et al. with the motivation for doing so would allow signal is converted before it is applied to the input of the transistor.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McEwan (US# 5,630,216) discloses a microwave RF transponder employs a novel adaptation of the super-regenerative receiver wherein the quenching oscillator is external to the regenerative transistor.

Shore (US# 5,742,902) discloses a super-regenerative circuit apparatus for a door operator receiver.

Any inquiry concerning this communication or earlier communications form the examiner should be directed to Scott Au whose telephone number is (703) 305-4680. The examiner can normally be reached on Mon-Fri, 8:30AM – 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached at (703) 305-4704. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-305-3900.

Scott Au

MICHAEL HORABIK
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